



Application No. 0/827,422
Amendment dated September 26, 2006
Reply to Office Action of June 28, 2006

Amendments to the Claims:

Please amend claims 1, 2, 8, 9, 12, 14, 15, 16 and 17 as follows. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A multibeam light source unit comprising:
a diode unit including a laser diode for emitting a plurality of laser beams;
a rotating member for supporting the laser diode; and
a fixing member for rotatably supporting the rotating member,

wherein said rotating member is turned at an angle selected to align the positions of the plurality of laser beams and is then fixed to the fixing member, the fixing member comprising a first member for receiving the rotating member and a second member extending substantially perpendicular from the first member and bisected by a continuous semi-circular groove, for securing the first member to a frame.

2. (Currently Amended) The multibeam light source unit according to claim 1, wherein:

said rotating member comprises a press fit hole into which the laser diode is press-fitted and a rotating boss as a center of rotation; and

said fixing member comprises [[a]] the first member having a boss hole into which the rotating boss is rotatably inserted and [[a]] the second member ~~vertically~~ extending from the first member.

3. (Original) The multibeam light source unit according to claim 2, wherein:

a pair of screws are provided to fix the rotating member which has been turned and adjusted to the first member of the fixing member; and

said rotating member further comprises a pair of circular arc-shaped long holes into which said pair of screws can be engaged.

4. (Original) The multibeam light source unit according to claim 2, wherein said rotating member further comprises a gear section at one side to be engaged with a rotary gear of a laser beam position alignment jig for turning the rotating member.

5. (Original) The multibeam light source unit according to claim 4, wherein said rotating member further comprises another gear section at the opposite side of said gear section, said other gear section being engaged with another rotary gear of the laser beam position alignment jig.

6. (Original) The multibeam light source unit according to claim 2, wherein said diode unit comprises a driving circuit board for controlling the driving of the laser diode, said driving circuit board being connected to the rotating member.

7. (Original) The multibeam light source unit according to claim 2, further comprising:

a collimating lens for transforming a plurality of laser beams emitted from the laser diode into parallel rays of light; and

a lens holder for supporting the collimating lens, said lens holder being placed within the second member of the fixing member.

8. (Currently Amended) The multibeam light source unit according to claim 7, wherein said second member comprises [[a]] the semi-circular groove for receiving the lens holder at the center thereof, and a plurality of holes at both sides of the semi-circular groove so that the second member can be fixed to an object by use of any fastening means penetrating the holes.

9. (Currently Amended) A laser scanning apparatus comprising:
a multibeam light source unit for emitting a plurality of laser beams;
a scanning/image resulting unit for scanning a plurality of laser beams and forming an image on the scanning plane; and
a frame for supporting the multibeam light source unit and the scanning/image resulting unit,

said multibeam light source unit comprising:

a laser diode having at least two laser beam projecting sections;
a driving circuit board for controlling the driving of the laser diode;
a rotating member for supporting the laser diode and the driving circuit board; and

a fixing member for rotatably supporting the rotating member,

wherein said rotating member is turned at a predetermined angle to align the positions of the two laser beams and is then fixed to the fixing member, the fixing member comprising a first member for receiving the rotating member and a second member extending substantially perpendicular from the first member and bisected by a continuous semi-circular groove, for securing the first member to a frame.

10. (Original) The laser scanning apparatus according to claim 9, wherein said light source unit is mounted and fixed onto the bottom of the frame.

11. (Original) The laser scanning apparatus according to claim 9, wherein said scanning/image resulting unit comprises:

a polygon mirror for scanning the plurality of laser beams projected from the multibeam light source unit; and

an image resulting lens for imaging the laser beams scanned by the polygon mirror on the scanning plane, and wherein

said laser scanning apparatus comprises:

a cylindrical lens for linearly concentrating the plurality of laser beams onto the reflection plane of the polygon mirror; and
a synchronizing signal detection unit.

12. (Currently Amended) The laser scanning apparatus according to claim 9, wherein:

said rotating member comprises a press fit hole into which the laser diode is press-fitted and a rotating boss as a center of rotation;

said fixing member comprises [[a]] the first member having a boss hole into which the rotating boss is rotatably inserted and [[a]] the second member ~~vertically~~ extending from the first member; and

said second member of the fixing member of the multibeam light source unit is fixed onto the bottom of the frame by a plurality of fastening means.

13. (Original) The laser scanning apparatus according to claim 12, wherein said multibeam light source unit further comprises a collimating lens for transforming a plurality of laser beams emitted from the laser diode into parallel rays of light; and

a lens holder for supporting the collimating lens, said lens holder being placed within the second member of the fixing member.

14. (Currently Amended) The laser scanning apparatus according to claim 13, wherein said second member comprises:

[[a]] the semi-circular groove for receiving the lens holder at the center thereof and a plurality of holes at both sides of the semi-circular groove so that the second member can be fixed to an object by use of any fastening means penetrating the holes.

15. (Currently Amended) A method for fabricating a multibeam laser scanning apparatus, ~~comprising~~ comprising:

assembling a multibeam light source unit comprising securing a laser diode for emitting a plurality of laser beams with a rotating member, securing the rotating member with a first member of the fixing member, and placing a collimating lens assembly in a continuous semi-circular groove of a second member of the fixing member extending substantially perpendicular from the first member of the fixing member, in a sub-assembly line process; and

mounting the multibeam light source unit into a frame in a main assembly ~~line~~ process,

wherein said step of assembling the multibeam light source unit in the sub-assembly ~~line~~ process includes turning the laser diode at a predetermined angle to align the positions of the plurality of laser beams emitted from the laser diode.

16. (Currently Amended) The method according to claim 15, wherein said multibeam light source unit comprises ~~[[a]]~~ the rotating member for supporting the laser diode and ~~[[a]]~~ the fixing member for rotatably supporting the rotating member, said rotating member being turned at a predetermined angle to align the position of the laser diode, with the fixing member being fixed to ~~the~~ a laser beam position alignment jig.

17. (Currently Amended) The method according to claim 16, wherein said rotating member comprises a gear section formed at one side of the periphery thereof and is turned at a predetermined angle using ~~[[a]]~~ the laser beam position alignment jig which has a ~~fixing section for fixing the fixing member of the multibeam light source unit and a rotary gear engaged with a gear section of the rotating member while fixing the fixing member of the multibeam light source unit.~~